

CH
CRITICAL ITEMS LIST
FILE: CH-18

ITEM	TYPE	FAILURE	CAUSES	FAILURE EFFECT
P-10				
Q-17	CRIP	POOR O		
		CALIBERS		
R130404	2/2	INTERNAL	END FINISH	
METER		EXTERNAL	WATER LEAKAGE	
TAPE,		WATER LEAKAGE.	TO AMOUNT.	
STEM 140				
ST704004-				
79				
100				
PC002-1				
5				
SWR				

REASONABLE FOR ACCEPTANCE

A. DESIGN -
THE PERIMETER OF THE SEALING OPENING HAS A PREMOLDED
HEXAPRATIC GASKET "O-RING" BONDED IN PLACE WHICH PERFORMS THE
SEALING FUNCTION. THE SEALING CONCEPT IS THE SAME AS THAT
OF A SEAMLESS FACE TYPE O-SEAL, CONSISTING OF AN
ELASTOMERIC RING COMPRESSED AND RETURNED BETWEEN SMOOTH
FLAT SURFACES. RUBBER SEALS ISOLATE THE FLUID AND FACE PLATES
FROM THE ENVIRONMENT. THE CAVITIES, BODIES AND O-SEAL AREAS OF THE
STRUCTURE ARE COATED WITH AN INHIBITIVE CORROSION
INHIBITOR COATING.

B. TEST -
COMPONENT ACCEPTANCE TEST -
PER AT-E-830-2, AN EXTENSIVE LEAKAGE TEST IS PERFORMED BY
PRESSURIZING THE STEM GAS SIDE AND BODY SIDE TO 15.0 -
15.5 PSIG HYDROGEN. THE LEAKAGE AS MEASURED WITH A
VOLTMETER MICROPIPER FOR 10 MINUTES SHALL BE 0.5 SEC/MIN
MAX.

POH TEST -
WITH THE STEM INSTALLED IN THE POH THE OUTSIDE OF THE
STEM IS PRESSURIZED WITH 16.7 - 18.9 PSID HYD. THE
LEAKAGE SHALL BE 0 SEC/MIN WHEN RE MEASURED WITH A VOLTMETER
MICROPIPER FOR A 40 MINUTE PERIOD.

CERTIFICATION TEST -
THE STEM'S SHALL HAVE SUCCESSFULLY IMPOSED TO 30,000
FILL/DRAIN CYCLES AND 2,700 HOURS OF PRESSURIZED TIME
DURING 4/65 VS A REQUIREMENT OF 1000 AND 670 RESPECTIVELY.

C. INSPECTION -
THE SEALING SURFACES BETWEEN THE SEALING COVERS AND THE
WATER TANK, THE VARIOUS BODIES AND MOLDING PLATES, AND THE
FACE PRESSURE TRANSMITTER ARE 100% INSPECTED TO MEET
DIMENSIONAL AND SURFACE FINISH REQUIREMENTS.
THE "O" RINGS ARE 100% INSPECTED FOR SURFACE
CHARACTERISTICS PER SYNTHESIIS CLASSES 501.
THE "O" RINGS BONDED TO THE BODIES ARE 100% INSPECTED TO
MEET DIMENSIONAL AND SURFACE FINISH REQUIREMENTS.

30
20
10
5

CIL
EMU-1054 TIME LOG
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NAME	FUNCTION	PARTIAL OFFICE
P-00	POWDER	
SPV	CAUT	POWDER & CAUSES
REVERSE	R/T	JOINTS:
WATER		EXTREME
TANK		WATER DAMAGE.
EMU PMS		
29469692-		
24		
010		
SC1054-2		
0		
2000		

REASONS FOR ACCEPTANCE

- D. FAILURE MODE -**
J-THU-850-001 (L-8-65)
A severe impact to the header where the O-RINGS
failed to the bladder surface caused external water
leakage. A new bladder patching kit has been
incorporated.
- E. GROUND REPAIRS -**
Testing is performed per J-THU-8-804. Reserve to primary
water tank damage.
- F. OPERATIONAL USE -**
EVAs have the data comprising tools of primary equipment and
control is intact/reasonable, temperature OK. Consumes vacuum
header recharge to recover EMU operation.
NOTING -
Standard EMU patching covers this failure mode.
OPERATIONAL CONSIDERATIONS -
Flight rules during cargo or crewman related to the
thermal control.
EVAs checklist procedures verify hardware integrity and
status operational status prior to EVA.
EMI link data system allows ground monitoring of EMU
systems.